

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460



United States  
Environmental Protection  
Agency

Office of Pesticide Programs

MEMORANDUM

6/27/2019

**SUBJECT:** Product Chemistry Review for TAIL,  
EPA Reg. No.: 5813-REG, DP 451330

**FROM:** *S. Rodriguez, chemist*  
Product Science Branch, CT Team  
Antimicrobials Division (7510P)

**THRU:** Karen Hicks, Team Leader  
Product Science Branch  
Antimicrobials Division (7510P)

**TO:** Eric Miederhoff, PM Team 31 / Emilia Oiguenblik  
Regulatory Management Branch I  
Antimicrobials Division (7510P)

Registrant: The Clorox  
Co.

Action code: A540

Agency Due Date:

7/25/2019

Science Due Date:

6/25/2019

Submission No.: 36085

E-Sub No.: 1030824

Classification: EP

Process: Nonintegrated  
system

Pesticide classification:  
Antimicrobial & Sanitizer

Formulation from label			
PC code(s)	CAS #(s)	Active Ingredient(s)	% weight
069105	68424-85-1	Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	1.480
069149	7173-51-5	Didecyl dimethyl ammonium chloride	0.555
069165	32426-11-2	Octyl decyl dimethyl ammonium chloride	1.110
069166	5538-94-3	Diocetyl dimethyl ammonium chloride	0.555

## I. BACKGROUND

The Registrant, The Clorox Co., has submitted an application for pesticide registration for their laundry sanitizer for use in the final rinse cycle of the washing machine product: **TAIL** EPA Reg. No. 5813-REG. This product kills or irreversibly inactivates at least 99.9 % of bacteria, fungi & viruses

## II. RELEVANT DOCUMENTS

	RECEIVED	N/A
EPA FORM 8570-1 – Application for Pesticide Registration	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EPA FORM 8570-27 – Formulator's Exemption Statement	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EPA FORM 8570-34 – Certification with respect to citation of data	<input type="checkbox"/>	<input checked="" type="checkbox"/>
EPA FORM 8570-35 – Data Matrix (2/1/2019)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cover letter (2/1/2019)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Transmittal document	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proposed CSF BASIC & ALT #s: (1 & 2), (12/27/2018)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proposed label, (2/1/2019)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Certification for Pilot Fragrance Notification Program	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>REFERENCED: N/A</i>	--	

## III. FINDINGS

### CONFIDENTIAL STATEMENT OF FORMULA

#### a. Product Formulation:

	TGAI	MUP	<i>EUP</i>	Food use	<i>Non-food use</i>
<i>Non-integrated</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Integrated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Active Ingredients(s)			Nominal	Upper limit	Lower limit
Alkyl (50%C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride			1.480	1.628	1.332
Didecyl dimethyl ammonium chloride			0.555	0.610	0.499
Octyl decyl dimethyl ammonium chloride			1.110	1.221	0.999
Diocetyl dimethyl ammonium chloride			0.555	0.61	0.499

	Acceptable	Not Acceptable	N/A
1. The certified limits of all ingredients are within 40 CFR standard certified limits.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>2. Wider certified limits were requested, and rationale was accepted.</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The nominal concentration(s) of the active ingredient is in agreement with the label.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The chemical IDs and analytical information for density, pH, and flammability are consistent with Series 830 Group B data.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. All inert ingredients are approved for non-food use pesticide formulations.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The impurities present >0.1% are identified.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Impurities of toxicological significance have an upper certified limit.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**b. Product Label:**

	Yes	NO	N/A
<i>The formula contains one of the following:</i>			
1. 10% or more of petroleum distillate	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. 1.0% or more of methyl alcohol	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sodium nitrite at any level	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. A toxic list 1 inert at any level	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Arsenic in any form	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. If yes to 2-6, then the inert ingredient list contains a relevant footnote	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Appropriate warning statements regarding flammability or explosive characteristics of the product are included on the label	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. The storage and disposal instructions for the pesticide container follow PR Notice 84-1 for household use products or PR Notice 83-3 for all other uses.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. The product requires an expiration date at which time the nominal concentration falls below the lower certified limit.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**IV. Additional Findings**

**V. Conclusion:**

Product Science Branch of Antimicrobials Division finds the proposed Confidential Statements of Formula, for the basic and alternate #s: (1 & 2), dated 12/27/18, and the OPPTS Guideline Group "A & B", Series 830, supporting the antimicrobial & sanitizer, , non-integrated, non-food use, end-use product **5813-REG** to be **acceptable**.

**VI. Table A:**  
**Series 830 guidelines – Group A**

OPPTS#	Name	Status	MRID
830.1550	Product Identity & Composition	Acceptable	50749701 50749702
830.1600	Description of materials	Acceptable	50749701
830.1620	Description of production process	Acceptable	50749701
830.1650	Description of formulation process	Not applicable, non-integrated	N/A
830.1670	Discussion of formation of impurities	Acceptable	50749701
830.1700	Preliminary analysis	Not applicable, non-integrated	N/A
830.1750	Certified limits	Acceptable	50749701
830.1800	Enforcement analytical method	Acceptable	50749701
830.1900	Submittal of samples	Not applicable, non-integrated	N/A

**VII. Table B:**  
**Series 830 guidelines – Group B**

OPPTS#	Name	Study Findings/Comment	Status	MRID
830.6302	Color	Not required for end use product	Not applicable	N/A
830.6303	Physical state	Clear liquid	Acceptable	50749701
830.6304	Odor	Not required for end use product	Not applicable	N/A
830.6313	Stability to normal & elevated temperatures, metals & metal ions	The product is not TGAI	Not applicable	N/A
830.6314	Oxidation/Reduction	This product is a strong oxidizer	Acceptable	50749701
830.6315	Flammability	>93	Acceptable	50749701
830.6316	Explosibility	Product does not contain explosive ingredients	Acceptable	50749701

830.6317	Storage stability	Product is stable	Acceptable	50749701
830.6319	Miscibility	Product not mixed with organic solvents	Acceptable	50749701
830.6320	Corrosion characteristics	Container is stable	Acceptable	50749701
830.6321	Dielectric breakdown voltage	Product not used near electrical equipment	Not applicable	N/A
830.7000	pH	7- 8	Acceptable	50749701
830.7050	UV/Visible absorption	Not required for MUP or EP	Not applicable	N/A
830.7100	Viscosity (20° C)	80.10 (c/P)	Acceptable	50749701
830.7200	Melting point	Not required for MUP or EP	Not applicable	N/A
830.7220	Boiling point	The product is not TGAI	Not applicable	N/A
830.7300	Density/relative	The product is not TGAI	Acceptable	50749701
830.7370	Dissociation constants in water	The product is not TGAI	Not applicable	N/A
830.7520	Particle size	The product is not TGAI	Not applicable	N/A
830.7550/ 7560/ 7570	Partition coefficient	The product is not TGAI	Not applicable	N/A
830.7840/ 7860	Water solubility	The product is not TGAI	Not applicable	N/A
830.7950	Vapor pressure	The product is not TGAI	Not applicable	N/A